



Climate Change & the Commonwealth

Mia Mansfield,
Director of Climate Adaptation and Resilience
MA Executive Office of Energy and Environmental Affairs



SHMCAP Implementation

Leading by example ➔ ResilientMA Action Team (RMAT)

State and local partnerships ➔ Municipal Vulnerability Preparedness Program (MVP)

RMAT: Resilient MA Action Team

Responsible for the State Hazard Mitigation and Climate Adaptation Plan (SHMCAP) implementation, monitoring, and maintenance, with representatives from each Secretariat and key state agencies

- RMAT Technical Advisor (Aug 2019-2021)

First year initiatives

- Statewide resilience standards and guidance
 - Resilient capital planning evaluation tool
 - Action tracker
- + Templates for municipalities



Municipal Vulnerability Preparedness (MVP) Program



A state and local partnership to build resilience to climate change by building capacity to respond to climate effects at the local level and pilot innovative adaptation practice



Across the Commonwealth, cities and towns need financial and technical resources to prepare their residents, businesses, and aging infrastructure:



300 high-hazard dams

12,000+ culverts and small bridges needing replacement



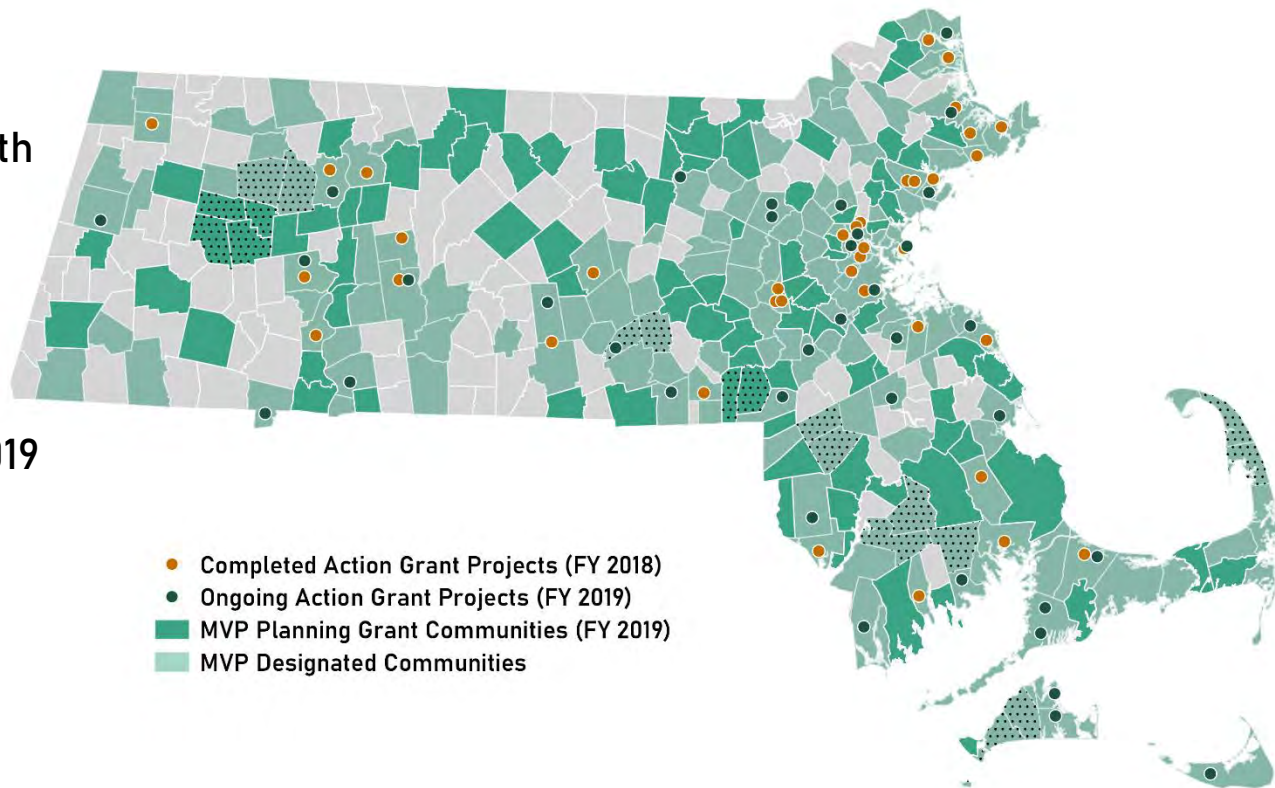
1,100 municipally-owned coastal structures

Three Years of MVP

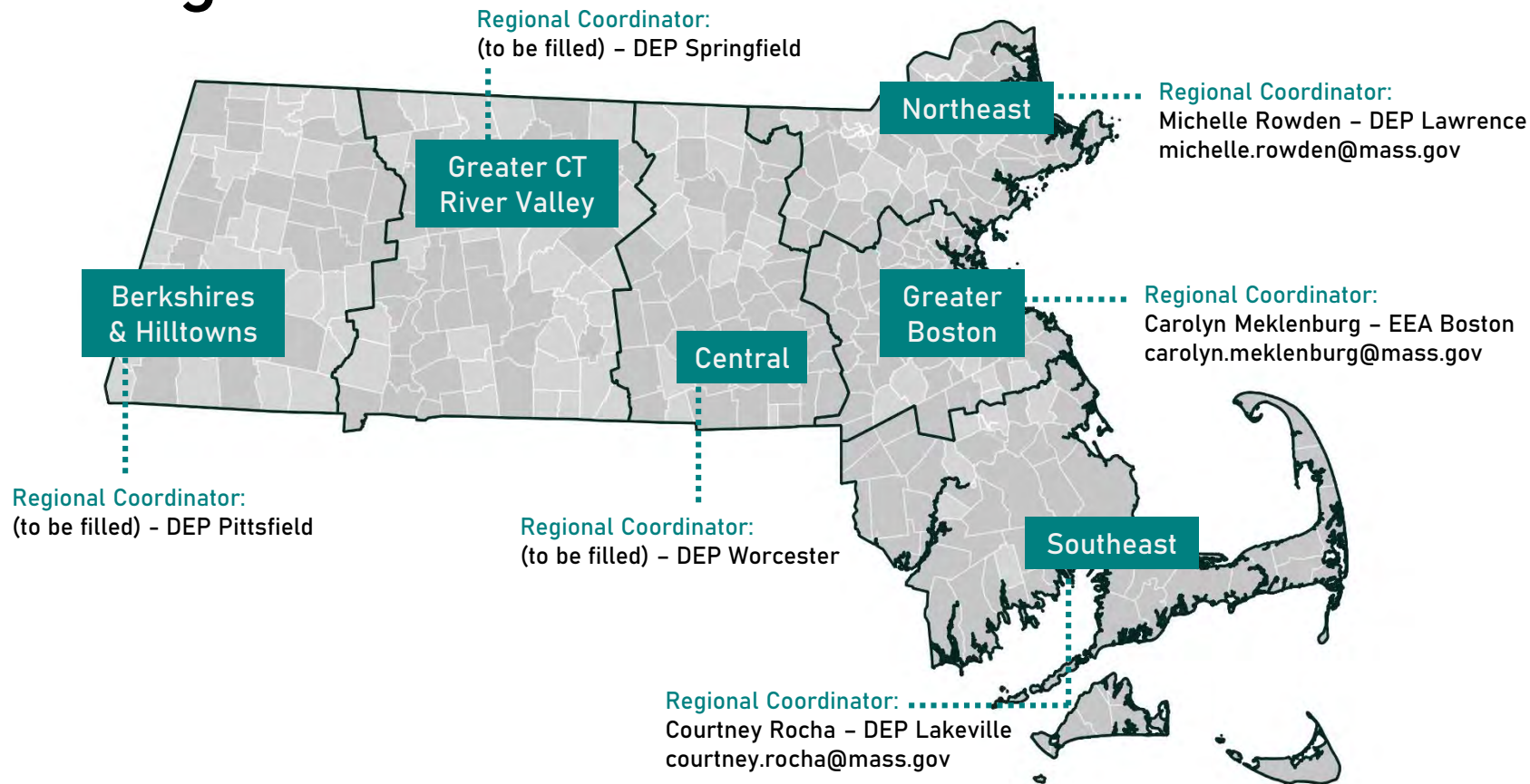
MVP Designations
71% of the Commonwealth
249 communities

Action Grant Projects
FY 18: 37
FY 19: 36
FY 20: Released Sept. 2019

Total Awards
\$17M+ in planning and
action grants to date



MVP Regions



MVP Principles

A community-led, accessible process that

- Employs local knowledge and buy-in
- Utilizes partnerships and leverages existing efforts
- Is based in best available climate projections and data
- Incorporates principles of nature-based solutions
- Demonstrates pilot potential and is proactive
- Reaches and responds to risks faced by EJ communities and vulnerable populations

Why nature-based?

Where appropriate, nature-based solutions can be more cost-effective, protect water quality and quantity, sustain lands that provide food and recreation opportunities, reduce erosion, and minimize temperature increases associated with developed areas and climate change.

MVP Grants



MVP Planning Grant: *Coming Sept 2019*

- \$15,000- \$100,000 per plan, completed by 6/30/2020
- Some expanded scopes
- *\$1M available*



MVP Action Grant: *Coming Sept 2019*

- Open to MVP communities
- \$25,000- \$2M per project, completed by 6/30/2020
- *\$10M available*

MVP Resources



resilient **MA**

Climate Change Clearinghouse for the Commonwealth

Explore
Sectors

Identify
Changes

Take
Action

Maps

Data

Documents

Search for resources...

Q Search

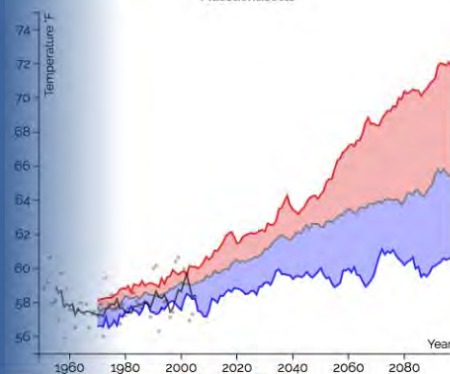
Providing the most up-to-date climate change science and decision-support tools for the Commonwealth. [More »](#)

Climate Change Data

The Baker-Polito Administration is investing in the best science and data to understand how the climate is projected to change and to allow Massachusetts to plan and adapt for the future.

[More »](#)

Annual Maximum Temperature
Massachusetts



Download Data

Observed

5-yr Mean

Modeled °F

Max

Median

Min

Changes from
1971-2000 for:

2020 -	3.83°F
2049 -	
2040 -	5.02°F
2069 -	
2060 -	6.14°F
2089 -	
2080 -	6.84°F
2097 -	



1

2

3

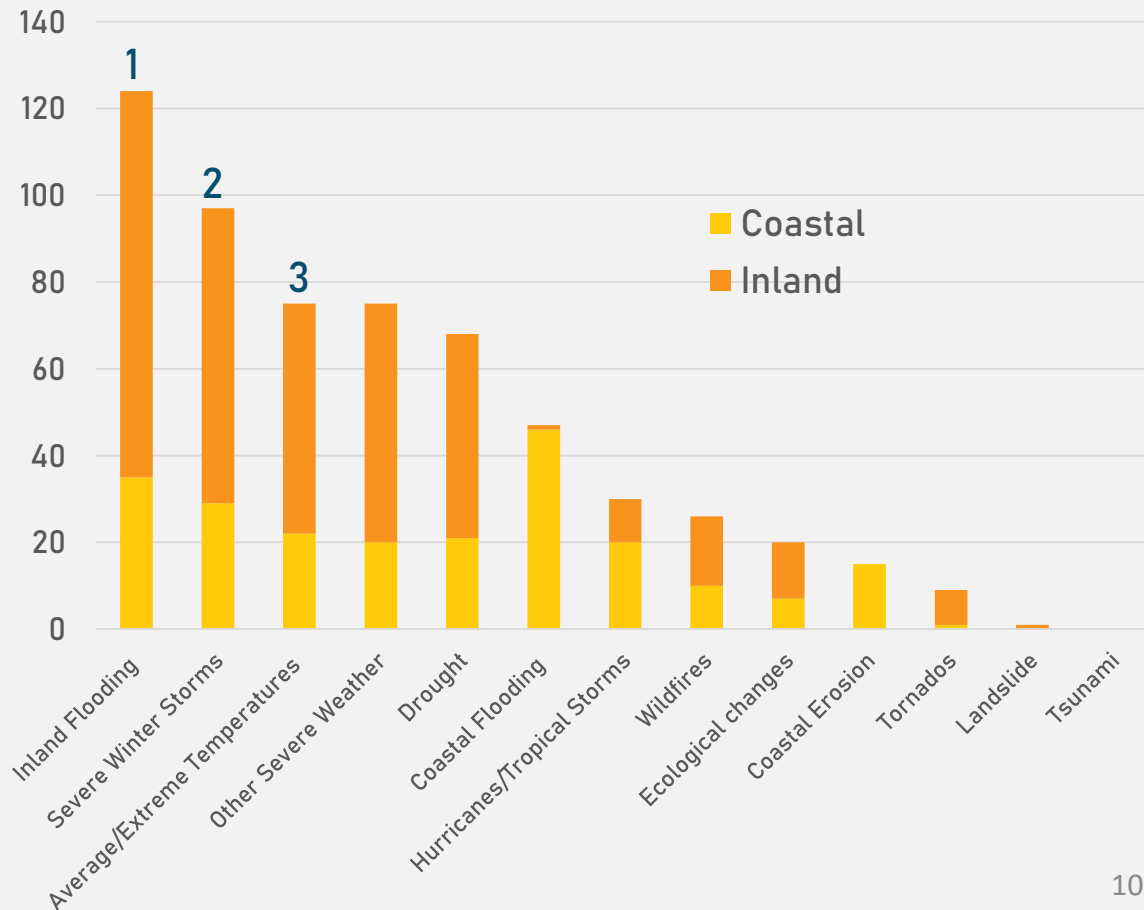
4

5

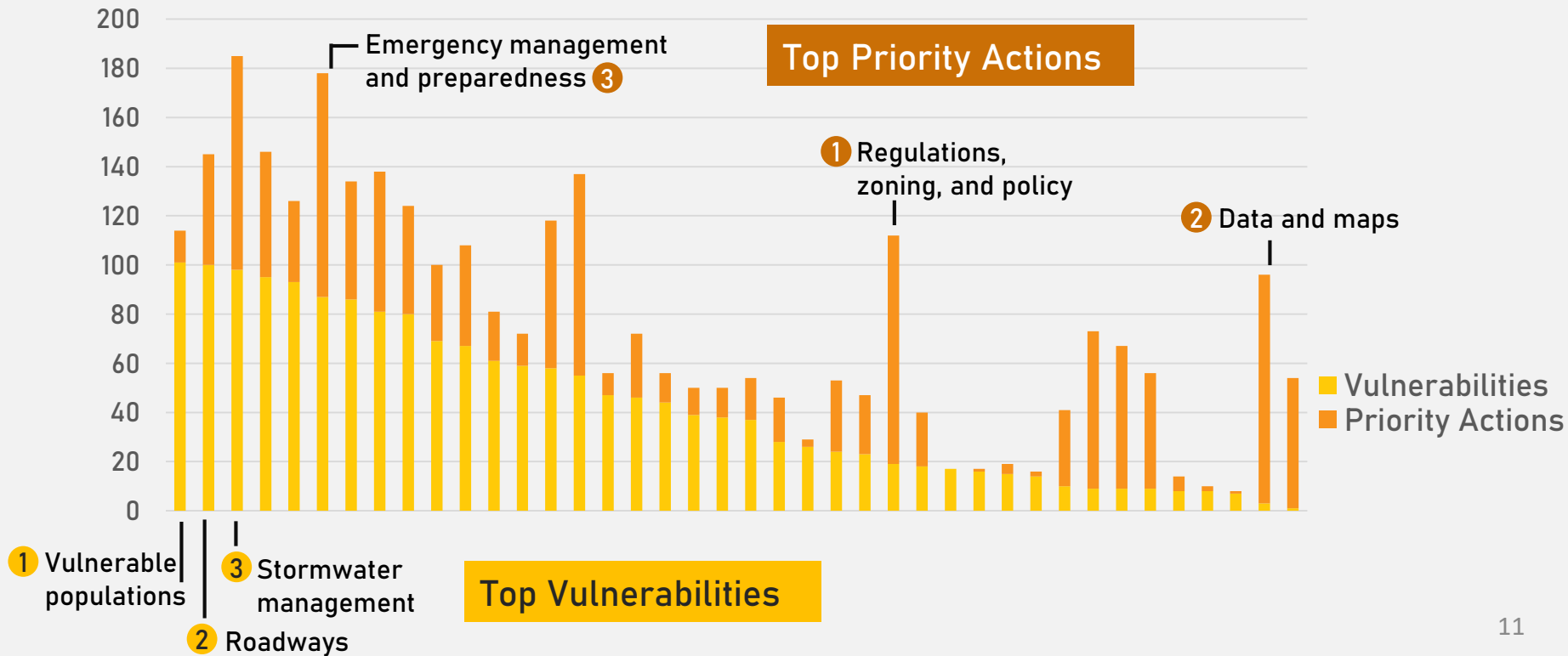
MVP: What we're hearing - 2018 & 2019 MVP Planning Reports

Top Hazards

- 1 Inland flooding**
Extreme precipitation and precipitation-induced flooding, ice jams, dam failures
- 2 Severe winter storms**
Snow/Ice storms, Nor'easters
- 3 Average/ Extreme temperatures**
Extreme heat, extreme cold, average higher temperatures



Municipal Priorities



MVP Action Grants: Project Types

- Detailed Vulnerability and Risk Assessment*
- Community Outreach and Education
- Local Bylaws, Ordinances, Plans, and Other Management Measures**
- Redesigns and Retrofits***
- Nature-Based Flood Protection, Drought Prevention, Water Quality, and Water Infiltration Techniques
- Nature-Based, Infrastructure and Technology Solutions to Reduce Vulnerability to Extreme Heat and Poor Air Quality



* Most common project type

** Second-most common project type

*** Third-most common project type

MVP Action Grants: Project Types (cont.)

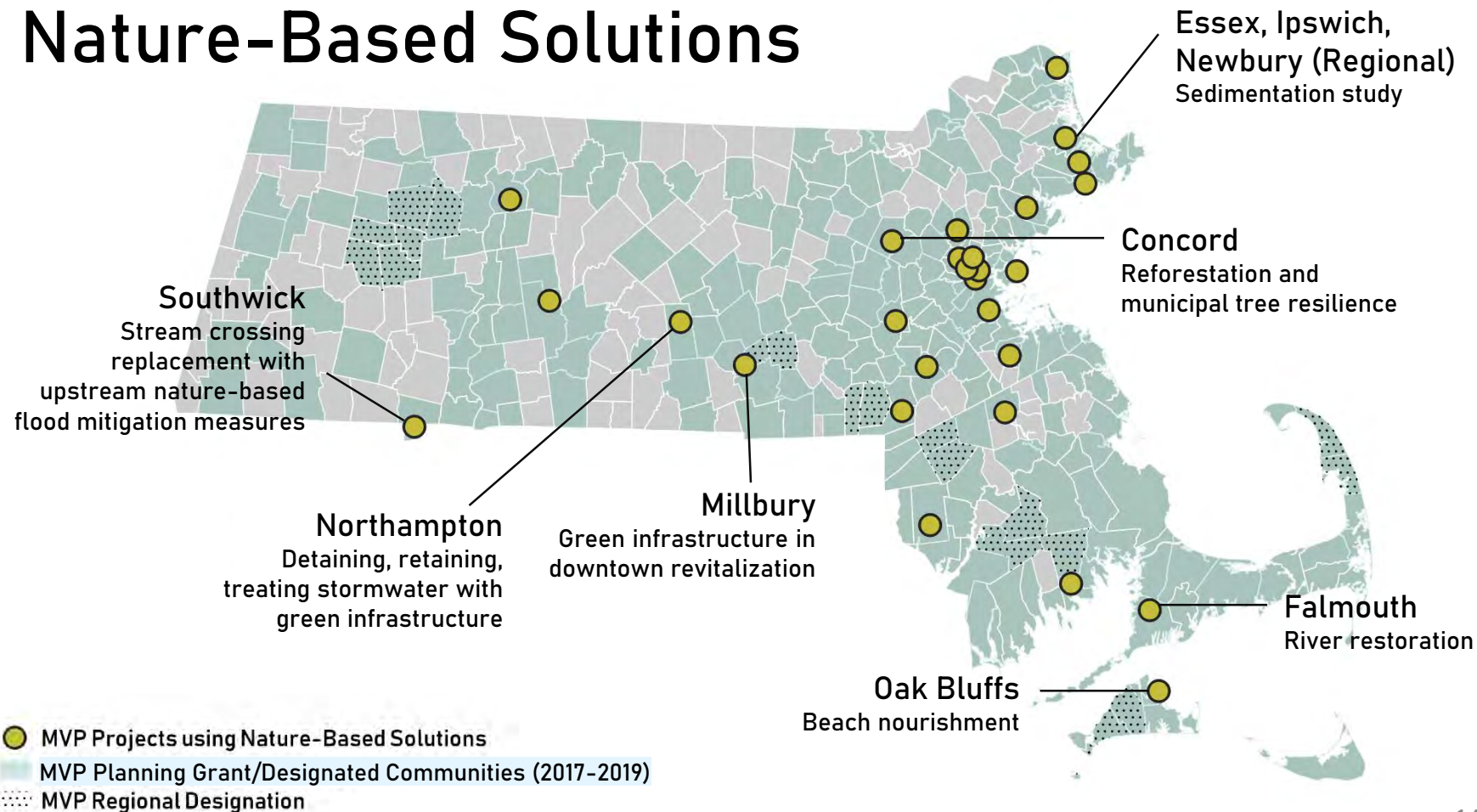


- Nature-Based Solutions to Reduce Vulnerability to other Climate Change Impacts
- Ecological Restoration and Habitat Management to Increase Resiliency

NEW IN 2019

- Energy Resilience
- Chemical Safety
- Land Acquisition for Resilience
- Mosquito Control Districts
- + Expanded eligibility of project location

Nature-Based Solutions



Example Action Grant Projects



Mattapoisett

PROJECT TYPE: Land Acquisition for Resilience

Purchased 120 acres of forest, streams, freshwater wetlands and coastal salt marsh as conservation land to prevent development in vulnerable areas

Data utilization

Proactive

Example Action Grant Projects



Millbury

PROJECT TYPE: Nature-Based Flood Protection, Drought Prevention, Water Quality, and Water Infiltration Techniques

Utilizing green infrastructure like stormwater planters, bioretention bump outs, rain gardens, and other measures like porous pavers and pervious pavement to reduce heat island effects and stormwater runoff into the Blackstone River.

Nature-based solutions

Example Action Grant Projects

Boston

PROJECT TYPE: Local Bylaws, Ordinances, Plans, and Other Management Measures

Developing its first ever resilient building code so that development in the future floodplain is prepared for at least three feet of sea level rise, the likely scenario by late century.



PROJECT TYPE: Redesigns and Retrofits

Retrofitting a major waterfront park into a legacy park that uses nature-based solutions to address climate vulnerabilities while providing important access to recreation for residents.



Example Action Grant Projects



Belchertown

PROJECT TYPE: Nature-Based Flood Protection, Drought Prevention, Water Quality, and Water Infiltration Techniques

Designing and permitting for a replacement water storage tank that would increase storage capacity and resiliency to drought, and completing a feasibility/ concept design of a rainwater harvesting system at Belchertown High School to irrigate the athletic fields.

Nature-based solutions

Pilot potential

Example Action Grant Projects



Salisbury

PROJECT TYPE: Redesigns and Retrofits

Increasing the resilience of the neighborhood of Ring's Island by raising its access/egress roads and by improving tidal flushing through culvert replacements

Vulnerable communities

Next Steps: Climate Change & the Commonwealth

Bill S.10:

An Act for Climate Change Adaptation Infrastructure Investments in the Commonwealth

- Building on success of existing programs like MVP: Proposed new source of revenue for loans, grants, and technical assistance to municipalities and regional partnerships for priority adaptation projects
 - Proposed deeds excise increase → est. \$137M annually (\$1B in ten years)
 - Recurring, long-term revenue stream for multi-year project feasibility





Mia.Mansfield@mass.gov

<https://www.mass.gov/municipal-vulnerability-preparedness-program>

